



Proposed Revisions to 314 CMR 4.00: Massachusetts Surface Water Quality Standards Regulation

Site-Specific Criteria Table 28 Update

MassDEP Proposes to Remove Certain Site-Specific Copper Criteria and Update Zinc and Nitrogen Criteria in Table 28

Background and Reason for Change

The purpose of the 314 CMR 4.00: Massachusetts Surface Water Quality Standards (SWQS) regulation is to restore, enhance, and protect the chemical, physical, and biological integrity of surface waters in Massachusetts. The SWQS were adopted to designate the most sensitive uses for which surface waters are to be regulated, prescribe the minimum water quality criteria required to sustain those uses, restore waters to those uses, and maintain high quality waters.

The Federal Water Pollution Control Act, 33 USC §1251, et seq. (known as the Clean Water Act or CWA) and associated federal Water Quality Standards, 40 CFR Part 131, require the U.S. Environmental Protection Agency (EPA) to periodically publish updated or new recommended ambient water quality criteria (AWQC). The CWA and these federal regulations also require states to periodically review and, as appropriate, to update the AWQC they have adopted in State regulations. Each State has the option of either adopting the federally recommended criteria or developing its own criteria, subject to EPA review and approval. EPA may also promulgate criteria for a State that develops criteria that are not protective or that neither adopts EPA's recommended criteria nor develops its own.

The SWQS include criteria that are specific to certain surface waters or segments of surface waters in Table 28: Site-Specific Criteria. Once approved by the EPA, site-specific numeric criteria included in Table 28 supersede other numeric AWQC, and may supplement or supersede narrative criteria in the SWQS. In the current SWQS, site-specific criteria are listed for copper, nitrogen, phosphorus, and zinc; however, not all of these criteria have been approved by EPA. Specifically, there are 15 site-specific copper criteria that have not been approved; nor have the zinc and phosphorus criteria been approved by EPA. Such federally unapproved site-specific criteria are not used for permits under the National Pollutant Discharge Elimination System (NPDES) or MassDEP's Surface Water Discharge (SWD) programs. In addition, several site-specific criteria for nitrogen are based on draft Total Maximum Daily Load (TMDL) reports that have since been finalized.

Proposed Revisions

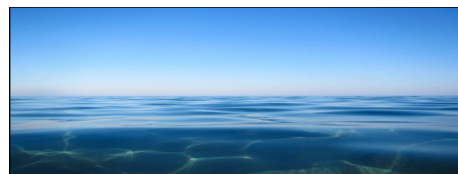
Proposed Table 28 includes revisions to remove the 15 copper site-specific criteria not approved by EPA and to update existing zinc and nitrogen criteria. More details on these proposed revisions are provided below.



Connecticut River, South Hadley MA, 2012. Photo Courtesy of MassDEP

Spotlight

Table 28, the Site-Specific Criteria table of the SWQS, lists criteria that are specific to certain surface waters or segments of surface waters.



In the SWQS site-specific criteria are listed for copper, nitrogen, phosphorus, and zinc.

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Site-Specific Criteria Table 28 Update (cont.)

Overview of Site-Specific Criteria Updates:

Copper. In 2018, EPA reviewed the 15 site-specific copper criteria that MassDEP originally promulgated in 2013. The criteria had been developed considering EPA's Water Effect Ratio (WER) guidance and using techniques similar to those used by the State of Connecticut for its site-specific criteria. The WER is a method that compares the toxicity of a pollutant in lab water to the toxicity of a pollutant in site-specific ambient surface water. The difference in toxicity is then used to adjust the criteria to reflect site-specific conditions. In a 2018 letter to MassDEP, EPA concluded that the 2013 copper criteria were not protective of the designated uses due to changes to surface water conditions since the studies were conducted. Proposed Table 28 would remove these 15 site-specific copper criteria.

Zinc. MassDEP also used EPA's WER guidance in developing the site-specific zinc criteria for a portion of the Squannacook River. EPA reviewed the zinc site-specific criteria report, and concluded that the criteria calculations needed to be modified using a different hardness level, among other recommendations. MassDEP accepted EPA's recommended modifications and proposed Table 28 adopts those modified criteria.

Nitrogen. Proposed Table 28 includes revisions to the nitrogen site-specific criteria for the Cape Cod Coastal Drainage Area, in accordance with the applicable final TMDLs. Proposed Table 28 also specifies the coordinates for the sentinel stations where the criteria should be applied, and lists the specific type of nitrogen that should be measured.

Coordination with Other Groups

Internal outreach and consultation with MassDEP's Office of Research and Standards (ORS) and the NPDES/SWD program were conducted during the review process. MassDEP also coordinated with various stakeholders including non-governmental organizations, NPDES/SWD permittees, and EPA to develop the updates to Table 28.

Regulatory Implications

The removal of the 15 site-specific copper criteria from 2013 will have minimal impact because these criteria were never approved by EPA and were therefore never incorporated into NPDES/SWD permits or into MassDEP's assessment decisions.

The addition of the zinc criteria for a segment of the Squannacook, once approved by EPA, may have an impact on the permits for dischargers to that segment. The site-specific criteria concentrations are higher (less stringent) than the original hardness-dependent criteria.

The updates to the nitrogen site-specific criteria, which apply to segments in the Cape Cod Coastal Drainage Area, in some cases result in more stringent criteria. Even though the criteria are more stringent, the impact of adopting these more stringent criteria will be minimal because there are few NPDES/SWD dischargers on Cape Cod. In addition, these updates may have limited impact on NPDES/SWD permit decisions because TMDLs must be considered in NPDES/SWD permits, and these final TMDLs may already be incorporated into applicable permits.

For more information see EPA's 1994 WER Guidance at <https://www3.epa.gov/npdes/pubs/owm624.pdf>

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